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04881421 E.I. No: EIP97123947306

~~Title: Compact artificial neural network approach for multiple fault location in digital circuits~~

Author: Arslan, T.; Al-Jumah, A.

Corporate Source: Cardiff Univ of Wales, Cardiff, UK

Source: Electronics Letters v 33 n 21 Oct 9 1997. p 1801-1803

Publication Year: 1997

CODEN: ELLEAK ISSN: 0013-5194

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9801W4

Abstract: The authors report a new approach for the diagnosis of multiple faults using artificial neural networks (ANNs). The approach utilizes a compact and efficient set of data derived from a set of test patterns generated for a given circuit. It is demonstrated that the approach will lead to a higher multiple faults diagnosis performance, in addition to a significant reduction in the size of the ANN and the training data, hence enabling failure diagnosis of larger and more complex systems. (Author abstract) 5 Refs.

34/7/38 (Item 18 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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04528532 E.I. No: EIP96103360918

Title: Probing technique for neural net fault detection

Author: Tanprasert, Thitipong; Tanprasert, Chularat

Corporate Source: Assumption Univ, Bangkok, Thailand

Conference Title: Proceedings of the 1996 IEEE International Conference on Neural Networks, ICNN. Part 2 (of 4)

Conference Location: Washington, DC, USA Conference Date: 19960603-19960606

Sponsor: IEEE

E.I. Conference No.: 45420

Source: IEEE International Conference on Neural Networks - Conference Proceedings v 2 1996. IEEE, Piscataway, NJ, USA, 96CB35907. p 1001-1005

Publication Year: 1996

CODEN: ICNNF9

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9612W2

Abstract: The weight shifting technique left bracket KVL94 right bracket left bracket KTL94 right bracket for recovering faulty neural network has been proposed based on the assumption that the weights of the faulty links are known. In this paper, a technique for detecting the faulty links and determining the faulty weights in single-output two-layered feed - forward neural networks is presented. This type of network architecture has been used in various applications, especially in business-related applications. The determination of faulty weights is achieved through slight neuron modification and the use of probing vectors. The technique can be implemented on a neural network chip. (Author abstract) 11 Refs.

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04080871 E.I. No: EIP95022581696

Title: Adaptive compandor design using the boundary adaptation rule

Author: Van Hulle, Marc M.; Martinez, Dominique

Corporate Source: Laboratorium voor Neuro- en Psychofysiologie, Leuven, Belgium

Conference Title: Proceedings of the 1994 IEEE International Conference on Neural Networks. Part 6 (of 7)

Conference Location: Orlando, FL, USA Conference Date: 19940627-19940629

Sponsor: IEEE

E.I. Conference No.: 42367

Source: IEEE International Conference on Neural Networks - Conference Proceedings v 6 1994. IEEE, Piscataway, NJ, USA, 94CH3429-8. p 3597-3600

Publication Year: 1994

CODEN: 001762

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9504W4

Abstract: A previous paper introduced a novel unsupervised learning rule for scalar quantization, called Boundary Adaptation Rule (BAR). Adaptive quantizers were built using the maximization of information-theoretic entropy as a design criterion. In this paper, we show that BAR can also be used for designing quantizers by minimizing the Mean Square Error distortion due to quantization. For this purpose, the adaptive histogram with equal bin counts assessed by BAR is used as a density estimator to build an optimal compandor function. (Author abstract) 4 Refs.

34/7/48 (Item 28 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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04055335 E.I. No: EIP95012533933

Title: Recovering faulty self-organizing neural networks by weight shifting technique

Author: Khunasaraphan, C.; Tanprasert, T.; Lursinsap, C.

Corporate Source: Univ of Southwestern Louisiana, Lafayette, LA, USA

Conference Title: Proceedings of the 1994 IEEE International Conference on Neural Networks. Part 3 (of 7)

Conference Location: Orlando, FL, USA Conference Date: 19940627-19940629

Sponsor: IEEE

E.I. Conference No.: 42367

Source: IEEE International Conference on Neural Networks - Conference Proceedings 3 1994. IEEE, Piscataway, NJ, USA, 94CH3429-8. p 1513-1518

Publication Year: 1994

CODEN: 001762

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9504W1

Abstract: A fault tolerant technique of feed - forward neural networks called weight shifting and its analytical models are proposed. The technique is applied to recover a self-organized network when some faulty links and/or neurons occur during the operation. If some input links of a specific neuron are detected faulty, their weights will be shifted to healthy links of the same neuron. On the other hand, if a faulty neuron is

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1591468 H.W. WILSON RECORD NUMBER: BAST98006821  
Linear associative memories with optimal rejection to colored input noise  
Zou, Li-He;  
IEEE Transactions on Circuits and Systems. Part II, Analog and Digital  
Signal Processing v. 44 (Dec. '97) p. 990-1000  
DOCUMENT TYPE: Feature Article ISSN: 1057-7130

ABSTRACT: The authors developed a new approach of linear associative memory design for optimal rejection to colored input noise. Optimally biased and unbiased solutions, in the sense of recall error for colored input noise, were obtained. The theoretical lower bound of error for biased or unbiased recall was derived, an efficient recursive computational procedure was used for the optimal design. The results from computer simulation and image recall experiments demonstrated a superior noise rejection in the proposed design approach.

34/7/66 (Item 2 from file: 144)  
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14669207 PASCAL No.: 00-0342628

~~Monitoring and diagnosis of induction motors electrical faults using a current Park's vector pattern learning approach~~

NEJJARI H; BENBOUZID M E H

Ecole Nationale Supérieure des Arts et Métiers de Lille, Lille, France  
Journal: IEEE Transactions on Industry Applications, 2000, 36 (3)  
730-735

ISSN: 0093-9994 CODEN: ITIACR Availability: INIST-222 H2  
No. of Refs.: 20 Refs.

Document Type: P (Serial) ; A (Analytic)  
Country of Publication: United States  
Language: English

Various applications of artificial neural networks (ANN 's) presented in the literature prove that such technique is well suited to cope with online faults diagnosis in induction motors. The aim of this paper is to present a methodology by which induction motors electrical faults can be diagnosed. The proposed methodology is based on the so-called Park's vector approach. In fact, stator current Park's vector patterns are first learned, using ANN 's, and then used to discern between 'healthy' and 'faulty' induction motors. The diagnosis process was tested on both classical and decentralized approaches. The purpose of a decentralized architecture is to facilitate a satisfactory distributed implementation of new types of faults to the initial NN monitoring system. The generality of the proposed methodology has been experimentally tested on a 4-kW squirrel-cage induction motor. The obtained results provide a satisfactory level of accuracy, indicating a promising industrial application of the hybrid Park's vector-neural networks approach.

34/7/67 (Item 1 from file: 266)  
DIALOG(R) File 266:FEDRIP  
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00260756

IDENTIFYING NO.: 26165 AGENCY CODE: SBIR

Neural Network Error Compensation of Machine Tools

PRINCIPAL INVESTIGATOR: Mize, C. D.

PERFORMING ORG.: Tetra Precision, Inc., 2335 Laurel Lane, Palm Beach

Publication Year: 1987

Language: English

Document Type: PA; (Conference Paper)

Journal Announcement: 8807

Abstract: Summary form only given. Fully connected, feed-forward networks (in which each unit on a given layer is connected to each unit on every layer above it) and the back-propagation credit/blame assignment are used to solve the detection problem for a wide range of input/output dependencies. When such a network converges for a given set of input/output examples the weight matrix contains information about irrelevant input variables. Ablation of such units has minimal consequences for the accuracy of the output produced by the network. Thus, an automatic procedure can be developed that is capable of automatically discovering the dependencies between the input variables and checking on its conclusion by simulation.

34/7/58 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01648153 JICST ACCESSION NUMBER: 93A0040494 FILE SEGMENT: JICST-E

~~Determination of Erroneous Velocity Vectors Using Neural Network.~~

KIMURA ICHIRO (1); YAMASHITA NAOFUMI (1); KUROE YASUAKI (2)

(1) Kobe Univ.; (2) Kyoto Inst. of Technology

Nippon Kikai Gakkai Ryutai Kogaku Bunon Koenkai Koen Ronbunshu, 1992,

VOL.1992, PAGE.310-312, FIG.6, TBL.2, REF.3

JOURNAL NUMBER: L0394AAV

UNIVERSAL DECIMAL CLASSIFICATION: 532.08+532.5

LANGUAGE: Japanese

COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

ABSTRACT: An image correlation method has been very popular to obtain a 2-D flow velocity vector distribution. The method, however, has a serious problem. Its estimated vectors have erroneous ones because of mismatching of the tracer images. Accordingly, it is necessary to determine the erroneous vectors. In a conventional algorithm, the erroneous vectors are distinguished by comparing each estimated velocity vector partly with its 8-neighbours vectors. In this study, a new algorithm for determining erroneous vectors using a neural network is presented. The Hopfield neural network can determine erroneous vectors checking over the entire flow velocity vector field. (author abst.)

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34/7/59 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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Machine learning algorithms for fault diagnosis in analog circuits

Rajan, V; Jie Yang; Chakrabarty, S; Pattipati, K

Dept. of Electr. & Syst. Eng., Connecticut Univ., Storrs, CT, USA

SMC'98 Conference Proceedings. 1998 IEEE International Conference on

Systems, Man, and Cybernetics (Cat. No.98CH36218), 11-14 Oct. 1998, San Diego, CA, USA1998

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 0-7803-4778-1

ABSTRACT: